



**2<sup>nd</sup> TF-Storage meeting**  
**Friday 12 September 2008**  
Riga, Latvia

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**1. Welcome and Apologies**

Jan Meijer (UNINETT), as the chair of TF-Storage, welcomed the participants of the 2<sup>nd</sup> TF-Storage meeting. Jan asked for a roll call.

**2. Approval of Agenda**

The proposed agenda was agreed with the participants. The last agenda item, on Storage Middleware Taxonomies, was removed from the agenda as circumstances made Brian Boyle (HEAnet) unable to prepare it. Brian did note HEAnet will volunteer more people resources to the TF-Storage in the future.

Discussion proved lively during the meeting and as a result the session on 'NREN backup' was moved to be discussed online and to the next TF-Storage meeting.

**3. Minutes of Last Meeting and Update of Action List**

There were no comments on the minutes of the last TF-Storage meeting. No major action points have been identified previously.

#### 4. Participants' presentations

Ongoing (national) activities were presented by the following participants (the slides can be downloaded from the TERENA website: <http://www.terena.org/activities/tf-storage/ws4/agenda.html>):

- **SigmaNet storage activities (Dana Ludviga, SigmaNet)**

Dana (SigmaNet) presented the SigmaNet storage activities in general ([http://www.terena.org/activities/tf-storage/ws4/1\\_DST.pdf](http://www.terena.org/activities/tf-storage/ws4/1_DST.pdf)). The running project details; supporters and partners, usage, infrastructure and plans were discussed. Jan (UNINETT) raised the issues about the IBM's General Parallel File System (GPFS) academic licence which, in Norway, was quite suddenly revoked last February (i.e., no longer participates in the IBM Academic Initiative Program). Andreas (T-Systems) mentioned that they have agreed on a reasonable price for GPFS. Lars (NORDUnet) said that the usage of GPFS looks very extensive in our communities; we might want to investigate if a coordinated action towards IBM is possible and desired.

*Action Tsec(08)068-1: Jan to investigate coordinated action towards IBM on GPFS academic licensing issue.*

- **Experiences with CleverSafe (Kaspars Krampis, SigmaNet)**

Kaspars (SigmaNet) presented the SigmaNet experiences with CleverSafe ([http://www.terena.org/activities/tf-storage/ws4/2\\_ExperiencesWithCleversafe.pdf](http://www.terena.org/activities/tf-storage/ws4/2_ExperiencesWithCleversafe.pdf)), which is a product that implements scalable distributed (geographically dispersed) storage on commodity hardware. CleverSafe appears to use a model where the core product is open sourced and additional functionality and management tools can be bought. The CleverSafe company sells storage hardware using the open source core software. The tests showed interesting differences between various OS-s and setups with very short highlights being that 64bit slice servers (which stores the data) are faster, the Windows XP iSCSI implementation is slow and the target machine (which distributes data over the slice servers) is a single point of failure.

Conclusions so far are that CleverSafe is a potentially usable technology but the downloadable version is not yet ready for production use. Rebuilding and encryption of data are open issues that should be resolved in upcoming releases. SigmaNet will keep an eye on CleverSafe developments. Andreas (T-System) mentioned that a trial of the commercial version of CleverSafe might be worthwhile, possibly the issues didn't exist in that version.

*Action Tsec(08)068-2: Kaspars (SigmaNet) to investigate availability of trial version of commercial CleverSafe product.*

- **Overview of scalable storage virtualization and filesystem research at ICS-FORTH (Kostas Magoutis, FORTH)**

Kostas (ICS-FORTH) presented the storage virtualization and filesystem research at FORTH ([http://www.terena.org/activities/tf-storage/ws4/3\\_magoutis-12sep2008.pdf](http://www.terena.org/activities/tf-storage/ws4/3_magoutis-12sep2008.pdf)). Two different

scenarios were discussed: the block level storage and the file system storage. The results of the GPFS and PVFSv2 comparison were also presented.

- **Data management and security in a Grid context (Andreas Landhaeusser, T-Systems)**

Andreas (T-Systems) presented the results of an evaluation of the Nirvana SRB (SRB2008) security features and enhancements ([http://www.terena.org/activities/tf-storage/ws4/4\\_Datamanagement\\_Security.pdf](http://www.terena.org/activities/tf-storage/ws4/4_Datamanagement_Security.pdf)) against the German federal data protection act (BDSG). The list of features includes:

- Supports virtually all major storage systems, file systems, OS, RDBs.
- Interfaces for CIFS (Windows, Mac OS X) NFS (Unix, Linux), Web Services, and leading storage and archival systems (i.e. Centera) with SRB Gateways.
- Contains sophisticated metadata management for unstructured data.
- Complete and advanced automation for Information Lifecycle Management (ILM Daemon) and data synchronization (Sync Daemon).
- Full suite of security mechanisms including authentication, access control, audit trails, integrity check, etc.
- High availability and disaster recovery with definable number of data replicas in distributed locations.
- Source code audited by a US government agency, no buffer overflows present,
- Compliant to HIPAA and other US federal regulations

Andreas mentioned that most of Nirvana SRB is closed source and not accessible to non-US Government entities. However, as quoted from Nirvana, if we 'need more detailed information about the SRB protocol, we could put that together as part of a Nirvana SRB deployment in Germany'.

T-Systems concluded, as did NASA and other US government agencies and clinics, that Nirvana SRB is secure enough to be used for health related Grids.

## 5. Poste Restante service demos

Jan (UNINETT) briefly introduced the Poste Restante concept: provide an easy to use web based service for the exchange of files using federated AAI credentials to authenticate the users.

Key features that distinguish the NREN Poste Restante effort from available (free) commercial services are:

- no upload limit (typically 100 MB with existing services);
- proper authentication to download/upload a file;
- allow the uploaded file to be encrypted;
- authentication of users using their federated identity credentials;
- ease of use by requiring less steps (possible because the NREN service does not need to be advertisement supported);
- using the NREN position as trusted third party

At the time of the previous TF-Storage meeting the only implementation of Poste Restante was from CSC/FUNET, whereas now three implementations were available.

Implementations were presented (and demonstrated) by:

- Brian Boyle, HEAnet, [http://www.terena.org/activities/tf-storage/ws4/5.2\\_lft.pdf](http://www.terena.org/activities/tf-storage/ws4/5.2_lft.pdf)
- Christoph Witzig, SWITCH, [http://www.terena.org/activities/tf-storage/ws4/5.1\\_080912\\_docex.pdf](http://www.terena.org/activities/tf-storage/ws4/5.1_080912_docex.pdf)
- Jan Meijer, UNINETT, [http://www.terena.org/activities/tf-storage/ws4/5.3\\_tf-storage-riga-filesender-uninett.pdf](http://www.terena.org/activities/tf-storage/ws4/5.3_tf-storage-riga-filesender-uninett.pdf)
- Kimmo Koivunen and Pietari Hyvarinen, CSC/FUNET, [http://www.terena.org/activities/tf-storage/ws4/5.4\\_funet.pdf](http://www.terena.org/activities/tf-storage/ws4/5.4_funet.pdf)

The TF-Storage group concluded that from the four presented solutions the Swiss solution (built and owned by the University of Basel) is the most functional and sophisticated, those participants interested in deploying a Poste Restante service to their community expressed their interest in using the Swiss solution.

Christoph reacted positively but treaded with care. When the code is released to others this must not result in many support requests to the University of Basel as they are not set up to cope with such requests. However, SWITCH could act as a godfather for the software, especially if other NRENs would be willing to contribute resources (manpower, money) to the development and maintenance. For SWITCH to start such a role there must be a sufficient commitment from others to warrant starting the process.

The other Poste Restante NRENs (HEAnet, UNINETT, FUNET) and T-Systems (Andreas) expressed support for the suggested approach. Jan (UNINETT) said that he would very much like to see such an effort go the proper open source way, making contributions easy.

It was agreed that SWITCH would arrange for test accounts to those interested and would then investigate the possibility to create a collaborative software development and maintenance effort for the Swiss Poste Restante software.

**Action Tsec(08)068-3:** *Christoph to create test accounts for those interested in a joint Poste Restante software project and investigate the possibility to open the software for use by others with SWITCH as godfather of the project.*

Peter (TERENA) noted that it could be useful for the TF-Storage community to collect all available information on the features of the existing Poste Restante implementations in a TF-Storage document.

**Action Tsec(08)068-4:** *Peter (TERENA) to function as editor of a document listing the features of the available Poste Restante implementations, based on input from those involved in the implementations.*

## 6. Commercial presentations

- **Building scalable storage solutions with Isilon (Rob Anderson, Area SE Manager, UK & Ireland)**

Rob (Isilon) presented the Isilon storage system based on the HEAnet use case (<http://www.terena.org/activities/tf-storage/ws4/Isilon.pdf>). HEAnet selected clustered storage, as the solution for their large, scalable storage system. The main benefits of the clustered storage system over the traditional SAN/NAS solutions are: the unlimited scalability, high performance, maximum data protection, ease of use/management, high availability and enterprise services (Windows, Unix, security, authentication, etc.). The details of the Isilon X-series storage platform's performance analysis as well as the OneFS 5.0 features can be found in the presentation.

- **Amazon web services: S3, EC2, etc. (Simone Brunozi, Amazon evangelist)**

Simone (Amazon) presented the Amazon web services and their potential usage ([http://www.terena.org/activities/tf-storage/ws4/6\\_Flash3.pdf](http://www.terena.org/activities/tf-storage/ws4/6_Flash3.pdf)). The Amazon web services are: S3 (infinite internet storage), EC2 (resizable computer capacity), EBS for EC2 (persistent storage), SimpleDB (queries on structured data), SQS (reliable queue for AWS), FPS (payment service for developers). Jan (UNINETT) asked about the possibility of direct peering with Amazon network. Simone answered that he can investigate the issues but a clear description on the NRNEs needs/offers are needed.

## 7. Postponed topics

Because of the tight schedule of the one day meeting there was no time left to discuss the following topics:

- Backup as an NREN service: scenarios, discussion (Jan Meijer, UNINETT / Andreas Landhaeusser, T-Systems)
- Inviting vendors: discussion on topics/structure of such an event (Jan Meijer, UNINETT)
- Middleware taxonomies, status of work, discussion (Brian Boyle, HEAnet)

Jan (UNINETT) proposed that these issues will be discussed on the mailing list. Everybody agreed.

## 8. Date of Next Meeting, AOB and Close

The next TF-Storage meeting will be held on 12-13 February 2009, in Dublin, Ireland, hosted by HEAnet. No AOB was discussed.

### Action List

Reference	Who	Action	Deadline
Tsec(08)068-1	Jan Meijer	<i>Investigate coordinated action towards IBM on GPFS academic licensing issue.</i>	Next meeting
Tsec(08)068-2	Kaspars	<i>SigmaNet to investigate availability of</i>	Next meeting

	Krampis	<i>trial version of commercial CleverSafe product.</i>	
Tsec(08)068-3	Christoph Witzig	<i>Create test accounts for those interested in a joint Poste Restante software project and investigate the possibility to open the software for use by others with SWITCH as godfather of the project.</i>	Next meeting
Tsec(08)068-4	Peter Szegedi	<i>Function as editor of a document listing the features of the available Poste Restante implementations, based on input from those involved in the implementations.</i>	Next meeting

### **List of Participants**

<b>First name</b>	<b>Last Name</b>	<b>Affiliation</b>
Rob	Anderson	Isilon Systems
Brian	Boyle	HEAnet
Simone	Brunozzi	Amazon EU Sarl
Maciej	Brzezniak	PSNC
Lars	Fischer	NORDUnet
Pietari	Hyvärinen	CSC
Kimmo	Koivunen	CSC
Kostas	Koumantaros	GRNET
Kaspars	Krampis	IMCS UL, SigmaNet
Andreas	Landhäußer	T-Systems Solutions for Research GmbH
Rossend	Llurba	NCF
Dana	Ludviga	IMCS UL, SigmaNet
Kostas	Magoutis	ICS-FORTH
Jan	Meijer	UNINETT
Magnus	Strømdal	UNINETT
Peter	Szegedi	TERENA
Christoph	Witzig	SWITCH
<b>Apologized</b>		
Cándido	Rodríguez	RedIRIS